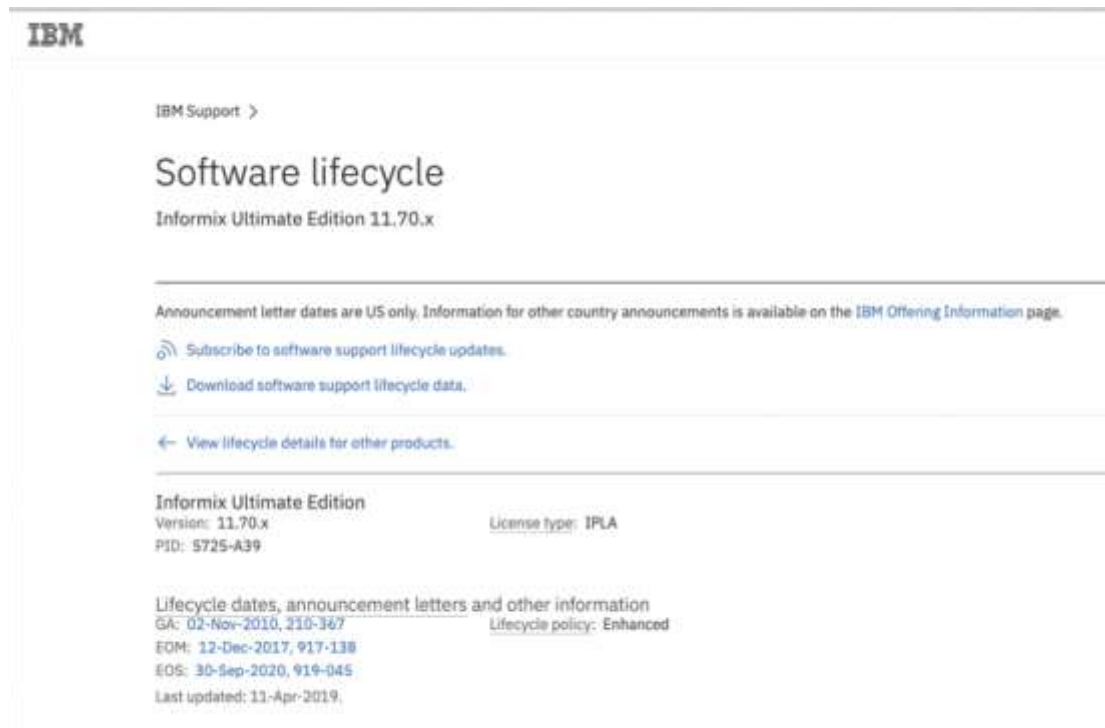


Why Upgrade

- IBM End of Support for Informix 11.70 on 9/30/2020



The screenshot shows the IBM Support page for Informix Ultimate Edition 11.70.x. The page is titled "Software lifecycle" and includes a navigation link "IBM Support >". Below the title, it specifies "Informix Ultimate Edition 11.70.x". A horizontal line separates the header from the main content. The main content area contains a note: "Announcement letter dates are US only. Information for other country announcements is available on the [IBM Offering Information page](#)." Below this note are three links: "Subscribe to software support lifecycle updates.", "Download software support lifecycle data.", and "View lifecycle details for other products." Another horizontal line separates this section from the product details. The product details section includes "Informix Ultimate Edition", "Version: 11.70.x", "License type: IPLA", and "PID: 5725-A39". Below this, it lists "Lifecycle dates, announcement letters and other information" with specific dates: "GA: 02-Nov-2010, 210-367", "EOM: 12-Dec-2017, 917-138", "EOS: 30-Sep-2020, 919-045", and "Last updated: 11-Apr-2019". The "Lifecycle policy" is listed as "Enhanced".

IBM

IBM Support >

Software lifecycle

Informix Ultimate Edition 11.70.x

Announcement letter dates are US only. Information for other country announcements is available on the [IBM Offering Information page](#).

[Subscribe to software support lifecycle updates.](#)

[Download software support lifecycle data.](#)

[View lifecycle details for other products.](#)

Informix Ultimate Edition
Version: 11.70.x
PID: 5725-A39

License type: [IPLA](#)

Lifecycle dates, announcement letters and other information
GA: 02-Nov-2010, 210-367
EOM: 12-Dec-2017, 917-138
EOS: 30-Sep-2020, 919-045
Last updated: 11-Apr-2019

Lifecycle policy: [Enhanced](#)

New Installer

- One binary - multiple edition installers
 - Advanced Enterprise Edition (aee)
 - Advanced Developer Edition (ade)
 - Advanced Enterprise Time Limited Edition (aetl)
 - Enterprise Edition (ee)
 - Time Limited Edition (tl)
 - Workgroup Edition (we)
 - Express Edition (e)
 - Innovator-C Edition (ie)
 - Developer Edition (de)

Informix Edition Installer

- Run the Informix edition installer to switch the 14.10 Informix installation from one edition to another
- Requires Java 1.8.0 to install
- `java -jar ee_edition.jar -i <console|gui>`
- The `ids_install` or `iwa_install` installer will invoke the edition installer for you in the same directory as `ids_install`

Install Changes

- New InformixHQ software included
 - \$INFORMIXDIR/hq
- No JBDC directory
- ClientSDK not included
- ESQL not included
- Connection Manager not included
- Download and install the Informix SDK separately

Upgrade Preparation

1. Create a new directory for the Informix 14 software
2. Install the Informix Software
3. Create new ONCONFIG and sqlhosts files
4. Re-compile any UDRs
5. Check and fix “in-place alters”

In-Place Alters

- Informix uses in-place alters to speed up database schema changes whenever possible
- New rows adopt the new schema definition, old rows do not change, therefore conversion is faster
- Recommend resolving in-place alters before an upgrade

In-Place Alter Example

Alter char(15) to char(30)

```
SQL: [ ] New Run Modify Use-editor Output Choose Save Info Drop Exit
Run the current SQL statements.

----- benchmark1@train1 ----- Press CTRL-W for Help -----

-- Alter zip table to create an inplace alter
info columns for zip;
alter table zip modify city      char(30);
info columns for zip;
```

In-Place Alter Example

711 pages at oldest version of table

BLspace Usage Report for benchmark1:informix.zip					
Type	Pages	Empty	Semi-Full	Full	Very-Full
Free	84				
Bit-Map	1				
Index	0				
Data (Home)	711				

Total Pages	796				
Unused Space Summary					
Unused data slots				51	
Home Data Page Version Summary					
Version		Count			
0 (oldest)		711			
1 (current)		0			

In-Place Alter Example

Insert 1 row

```
SQL: [ ] New Run Modify Use-editor Output Choose Save Info Drop Exit
Run the current SQL statements.

----- benchmark1@train1 ----- Press CTRL-W for Help -----

insert into zip ( zip, city, state, price )
values ( 99999, "NEW CITY WITH LONG NAME", "NS", 0 );

select * from zip where zip = 99999;
```

In-Place Alter Example

711 pages old version

1 page new version

BLspace Usage Report for benchmark1:informix.zip

Type	Pages	Empty	Semi-Full	Full	Very-Full
Free	83				
Bit-Map	1				
Index	0				
Data (Home)	712				
<hr/>					
Total Pages	796				

Unused Space Summary

Unused data slots	91
-------------------	----

Home Data Page Version Summary

Version	Count
0 (oldest)	711
1 (current)	1

In-Place Alter Example

Fix with dummy update

```
SQL: [ ] New Run Modify Use-editor Output Choose Save Info Drop Exit
Run the current SQL statements.

----- benchmark1@train1 ----- Press CTRL-W for Help -----

update zip set city = city where 1=1;
```

In-Place Alter Example

All rows at current version

TBLspace Usage Report for benchmark1:informix.zip

Type	Pages	Empty	Semi-Full	Full	Very-Full
Free	225				
Bit-Map	1				
Index	0				
Data (Home)	1058				
<hr/>					
Total Pages	1284				

Unused Space Summary

Unused data slots	1479
-------------------	------

Home Data Page Version Summary

Version	Count
0 (oldest)	0
1 (current)	1058

Upgrade Preparation

6. Verify integrity of Data Pages

- Check Reserved Pages
 - oncheck –pr or oncheck -cc
- Check Extents
 - oncheck –ce
- Check System Catalog Tables
 - oncheck –cc <database name>
- Check Data and Indexes
 - oncheck –cDI <Database name>
- Check Smart Large Objects
 - oncheck –cs <Sbospace name>
 - oncheck –cS <Sbospace name>

Upgrade Preparation

7. Perform Level 0 Backup
8. Validate the Backup
9. Create a Rollback Contingency Plan

Perform Upgrade

1. Ensure No User Access and Stop All Daily Processing
2. Bring Server to Single User Mode
3. Completely Shutdown the Informix Server
4. Create Symbolic Link to New Software
5. Check the ONCONFIG and sqlhosts File

Perform Upgrade

6. Start the Informix Server (new version) and allow it to perform the internal upgrade
7. Finish the Upgrade and Monitor Progress – bring the Server online to multi-user mode
8. Test the Installation

Perform Upgrade

9. Update Statistics Low on All Databases
10. Update Statistics for Procedures and Functions
11. Update Statistics High on All Databases
12. Enable User Access

Post Upgrade Processing

1. Test the Upgrade
2. Update Statistics High on All Databases (if this was not done earlier)
3. Enable Daily Processing and Ensure Users Can Connect
4. Perform Level 0 Backup

Post Upgrade Processing

5. Verify Integrity of Data Pages

- Check Reserved Pages
 - oncheck –pr or oncheck -cc
- Check Extents
 - oncheck –ce
- Check System Catalog Tables
 - oncheck –cc <database name>
- Check Data and Indexes
 - oncheck –cDI <Database name>
- Check Smart large objects
 - oncheck –cs <Sbospace name>
 - oncheck –cS <Sbospace name>

InformixHQ

InformixHQ

Username

Password

Login

@ Copyright IBM Corp. 2015, 2017. @ Copyright HCL Technologies Ltd. 2017, 2019.

InformixHQ

- Modern web console for visualizing, monitoring, and managing your Informix server instances
- InformixHQ Guide:

- https://www.ibm.com/support/knowledgecenter/en/SSGU8G_14.1.0/com.ibm.ifxhq.doc/informixhq.htm

Setting up InformixHQ Server

- Setup InformixHQ Server Properties File
 - Example:
 - `informixhq-server-example.properties`
- Start the Server
 - Example:
 - `java -jar informixhq-server.jar informixhq-server.properties`

Adding an Informix Server to HQ

The screenshot shows the InformixHQ web interface. The top navigation bar is blue with the InformixHQ logo on the left and a user profile 'admin' on the right. A breadcrumb trail at the top reads 'All Servers > Training Tigers > tiger2tcp > Setup'. On the left, a sidebar menu lists various features: Setup (highlighted), Monitoring, Alerting, Permissions, Incidents, Configuration, Performance, Storage, System info, SQL, SQL Tracing, Logs, and Privileges. The main content area is titled 'Setup' and has two tabs: 'Server' (selected) and 'Agent'. Under the 'Server' tab, the 'Server Information' section contains the following fields: 'Server ID' (12), 'Server Name' (tiger2tcp), 'Hostname' (tiger2), and 'Port' (9086). Below this, there are two sections for credentials: 'Monitoring Credentials' and 'Admin Credentials', each with a pencil icon for editing. Each section has 'Username' and 'Password' fields, both containing the text 'informix'. At the bottom, the 'Connection Properties' section has a '+ Add Connection Property' button. A 'Save' button is located at the very bottom of the form.

InformixHQ

All Servers > Training Tigers > tiger2tcp > Setup

Search

tiger2tcp

Setup

Monitoring

Alerting

Permissions

Incidents

Configuration

Performance

Storage

System info

SQL

SQL Tracing

Logs

Privileges

Setup

Server Agent

Server Information

Server ID 12

Server Name tiger2tcp

Hostname tiger2

Port 9086

Monitoring Credentials

Username informix

Password

Admin Credentials

Username informix

Password

Connection Properties

+ Add Connection Property

Save

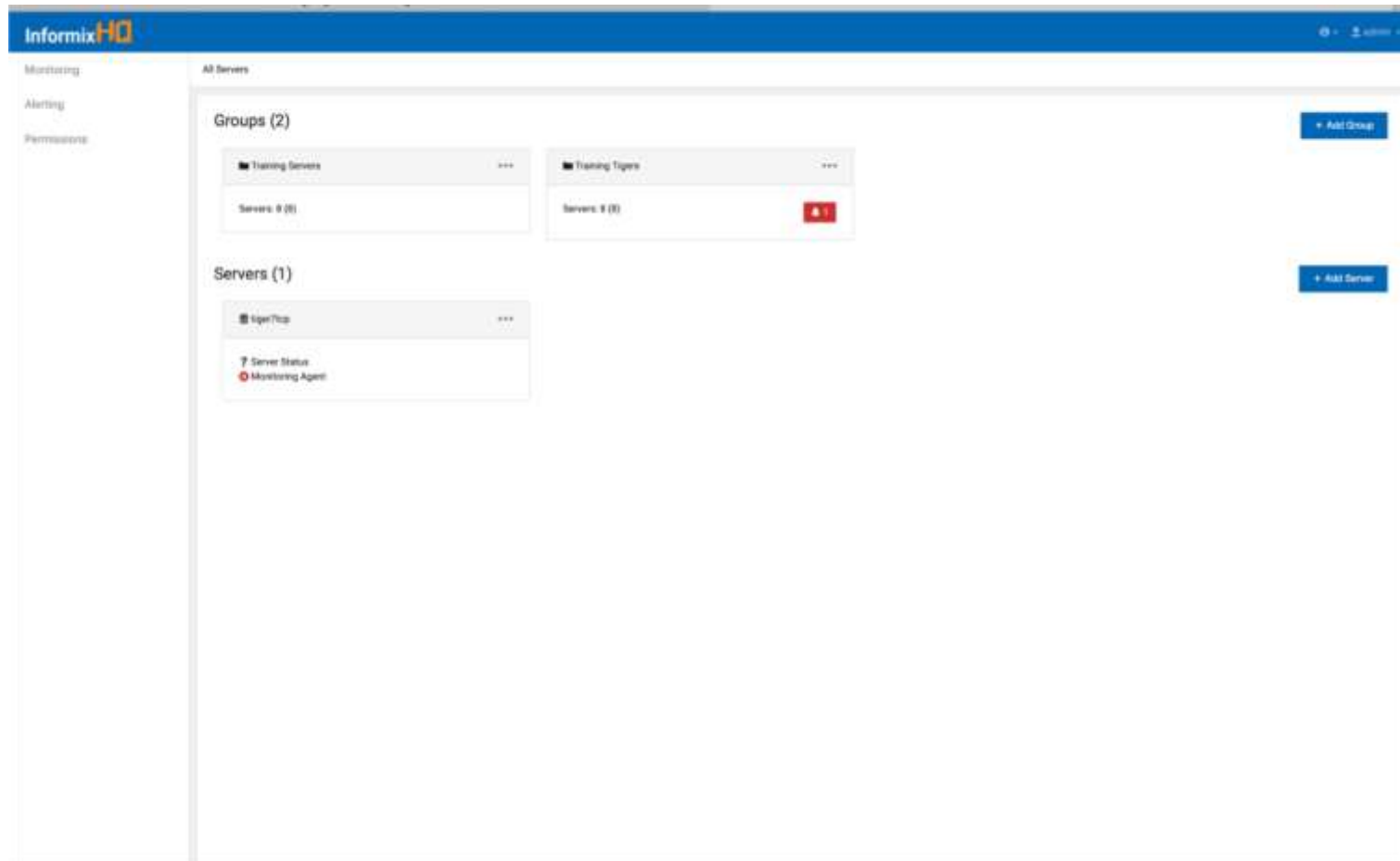
InformixHQ – Deploy Agent

The screenshot displays the InformixHQ web interface. The top navigation bar is blue with the InformixHQ logo and a user profile icon labeled 'admin'. Below the navigation bar, a breadcrumb trail reads 'All Servers > Training Tigers > tiger2tcp > Setup'. The left sidebar contains a search bar and a list of navigation items: 'tiger2tcp' (selected), 'Setup', 'Monitoring', 'Alerting', 'Permissions', 'Incidents', 'Configuration', 'Performance', 'Storage', 'System Info', 'SQL', 'SQL Tracing', 'Logs', and 'Privileges'. The main content area is titled 'Setup' and has two tabs: 'Server' and 'Agent' (selected). Under the 'Agent' tab, the 'Agent Information' section shows a 'Repository' field with the text 'No repository selected.' and a 'Select...' button. Below this is a 'Save' button. The 'Agent Status' section shows a message 'The agent is offline.' in a red-bordered box. Below the status message is a checkbox for 'Overwrite existing agent'. The 'Username' field is followed by a 'Password' field with a toggle for visibility. The 'Remote directory' field has a placeholder example: '/opt/informixhq-agent'. At the bottom of the form is a 'Deploy agent' button.

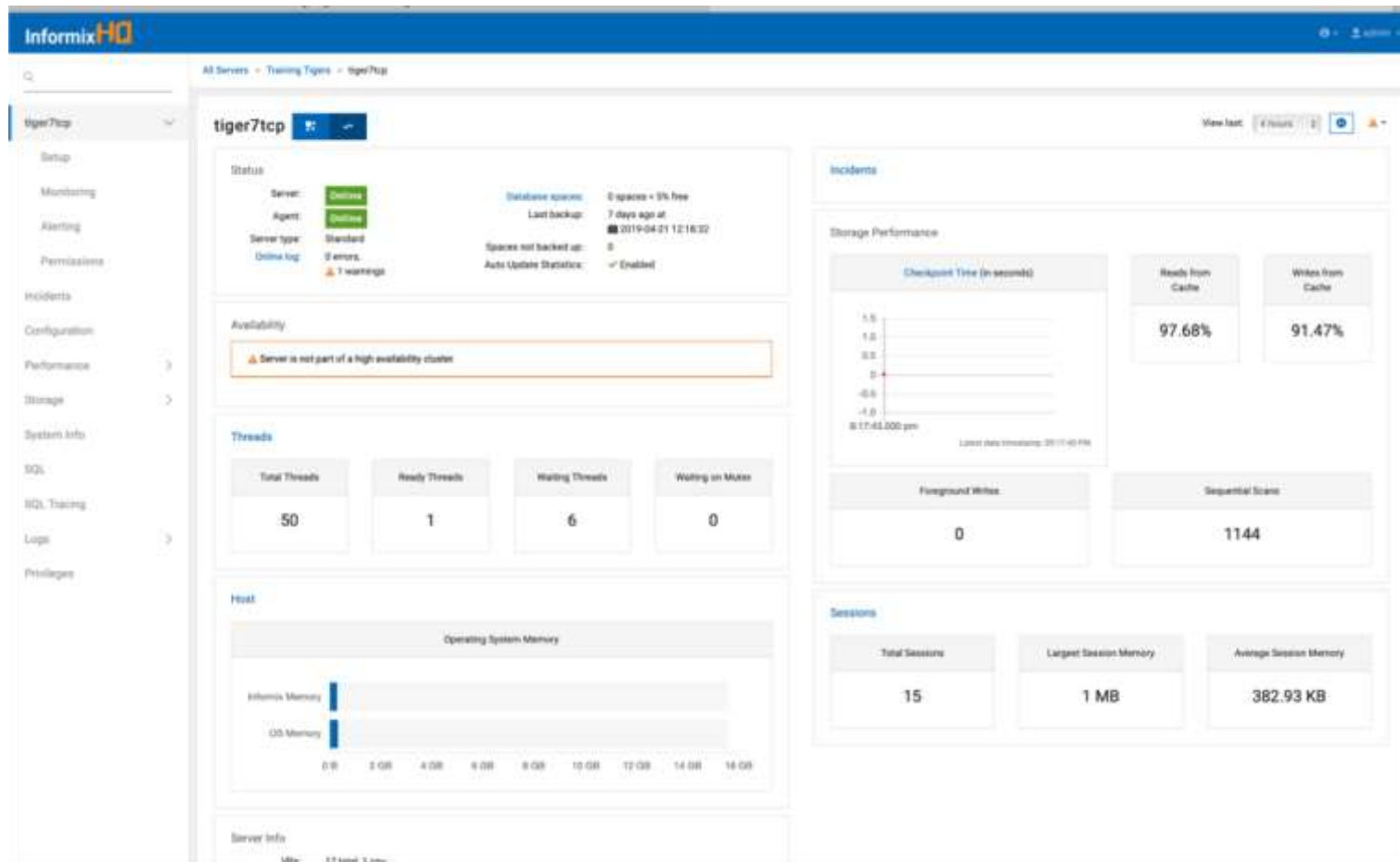
Setting up InformixHQ Client

- Setup InformixHQ Agent Properties
 - Example:
 - `informixhq-agent-example.properties`
- Start the Agent
 - Example:
 - `java -jar informixhq-agent.jar agent.properties`

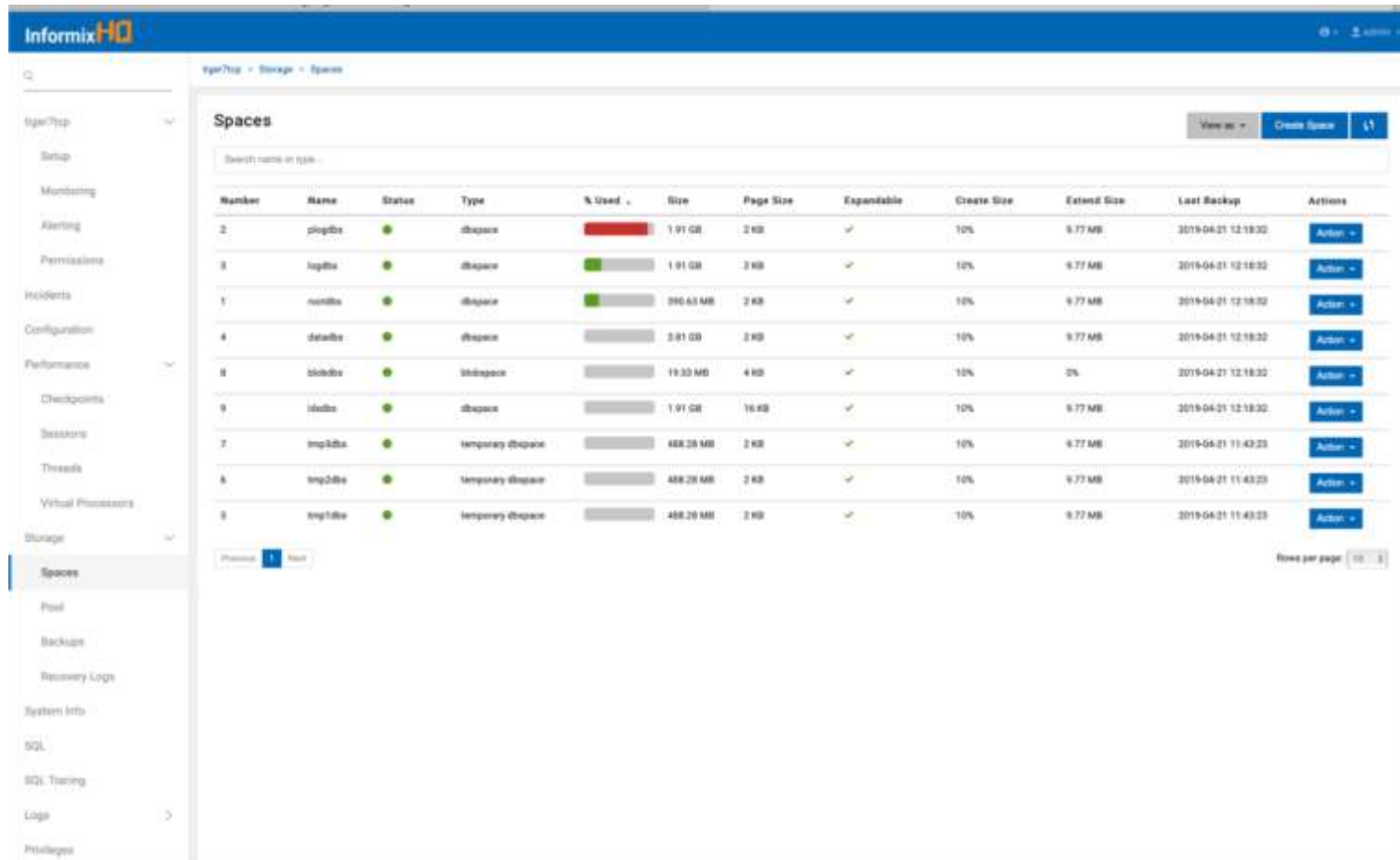
InformixHQ - Servers



InformixHQ - Server



InformixHQ – Monitor DBspaces



InformixHQ

typer/Top > Storage > Spaces

Search name or type...

Number	Name	Status	Type	% Used	Size	Page Size	Expandable	Create Size	Extend Size	Last Backup	Actions
2	plgdb		dbspace	<div></div>	1.91 GB	2 KB	✓	10%	9.77 MB	2019-04-21 12:18:32	Action
3	logdb		dbspace	<div></div>	1.91 GB	2 KB	✓	10%	9.77 MB	2019-04-21 12:18:32	Action
1	rndbdb		dbspace	<div></div>	390.63 MB	2 KB	✓	10%	9.77 MB	2019-04-21 12:18:32	Action
4	datadb		dbspace	<div></div>	2.81 GB	2 KB	✓	10%	9.77 MB	2019-04-21 12:18:32	Action
6	tblbdb		tblspace	<div></div>	19.33 MB	4 KB	✓	10%	0%	2019-04-21 12:18:32	Action
9	tblbdb		tblspace	<div></div>	1.91 GB	16 KB	✓	10%	9.77 MB	2019-04-21 12:18:32	Action
7	tmp1db		temporary dbspace	<div></div>	488.28 MB	2 KB	✓	10%	9.77 MB	2019-04-21 11:43:23	Action
8	tmp2db		temporary dbspace	<div></div>	488.28 MB	2 KB	✓	10%	9.77 MB	2019-04-21 11:43:23	Action
5	tmp3db		temporary dbspace	<div></div>	488.28 MB	2 KB	✓	10%	9.77 MB	2019-04-21 11:43:23	Action

Pages: 1 Sort

Items per page: 10

typer/Top

Setup

Monitoring

Alerting

Permissions

Incidents

Configuration

Performance

Checkpoints

Sessions

Thresholds

Virtual Processors

Storage

Spaces

Pool

Backup

Recovery Log

System Info

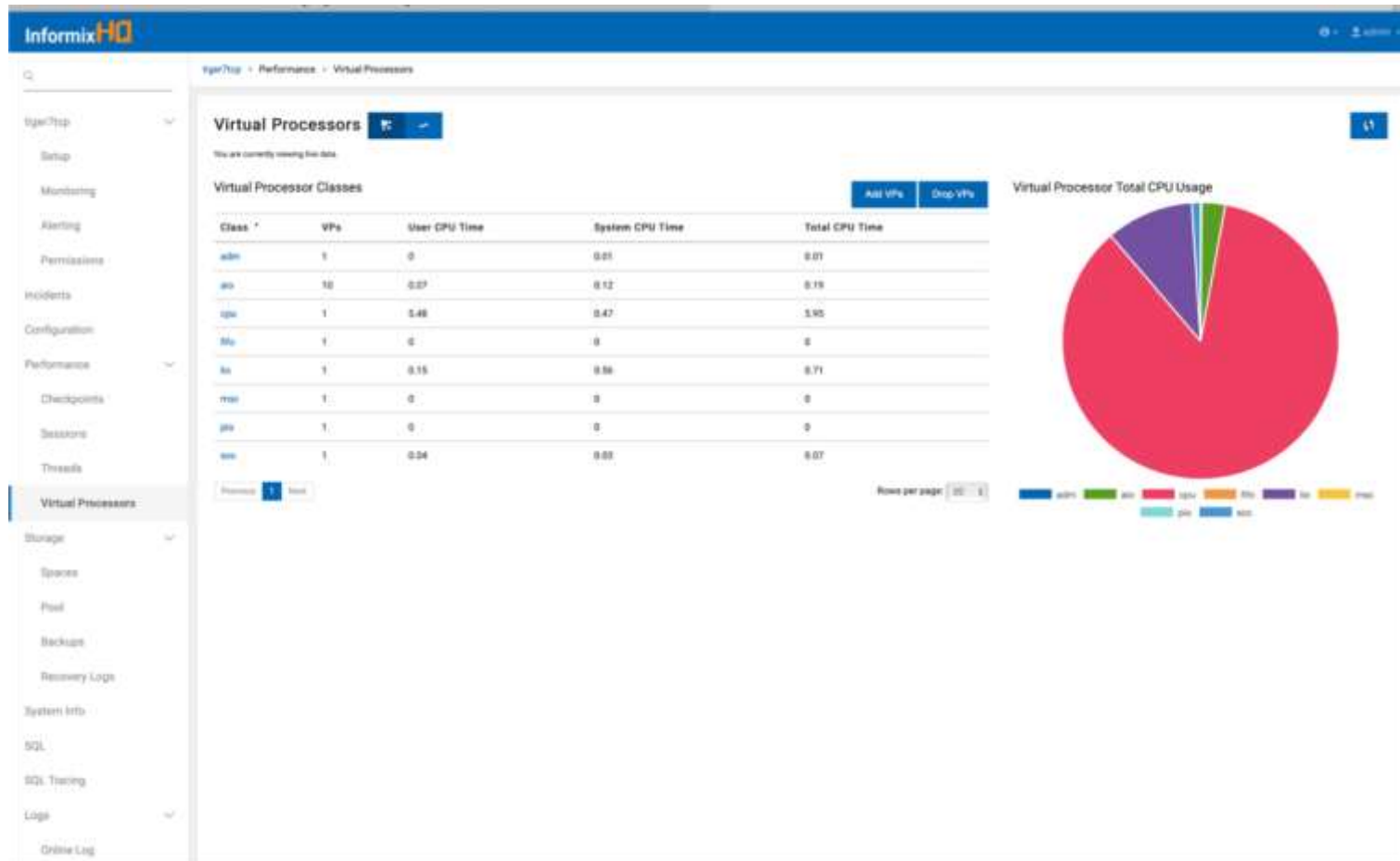
SQL

SQL Training

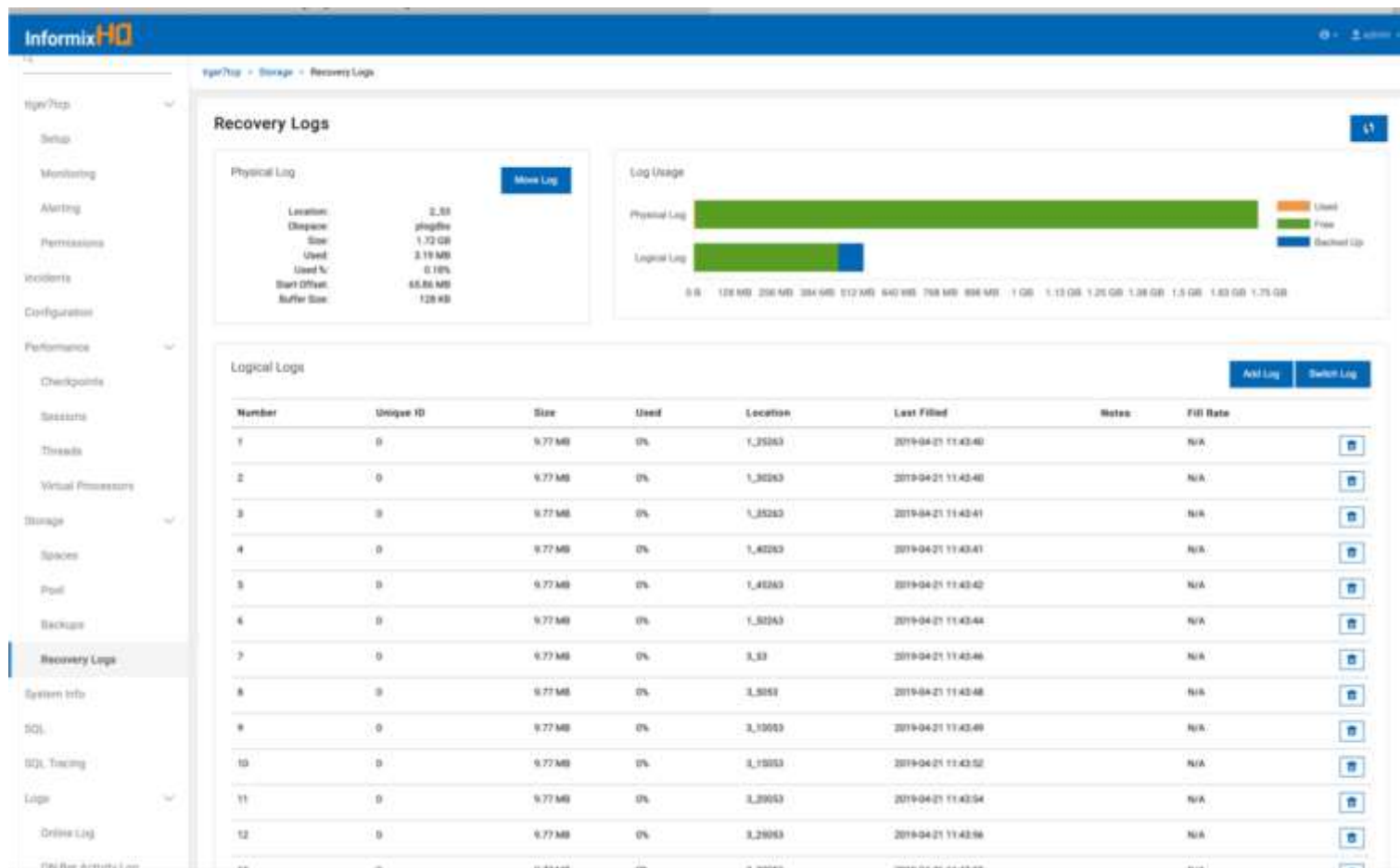
Logs

Privileges

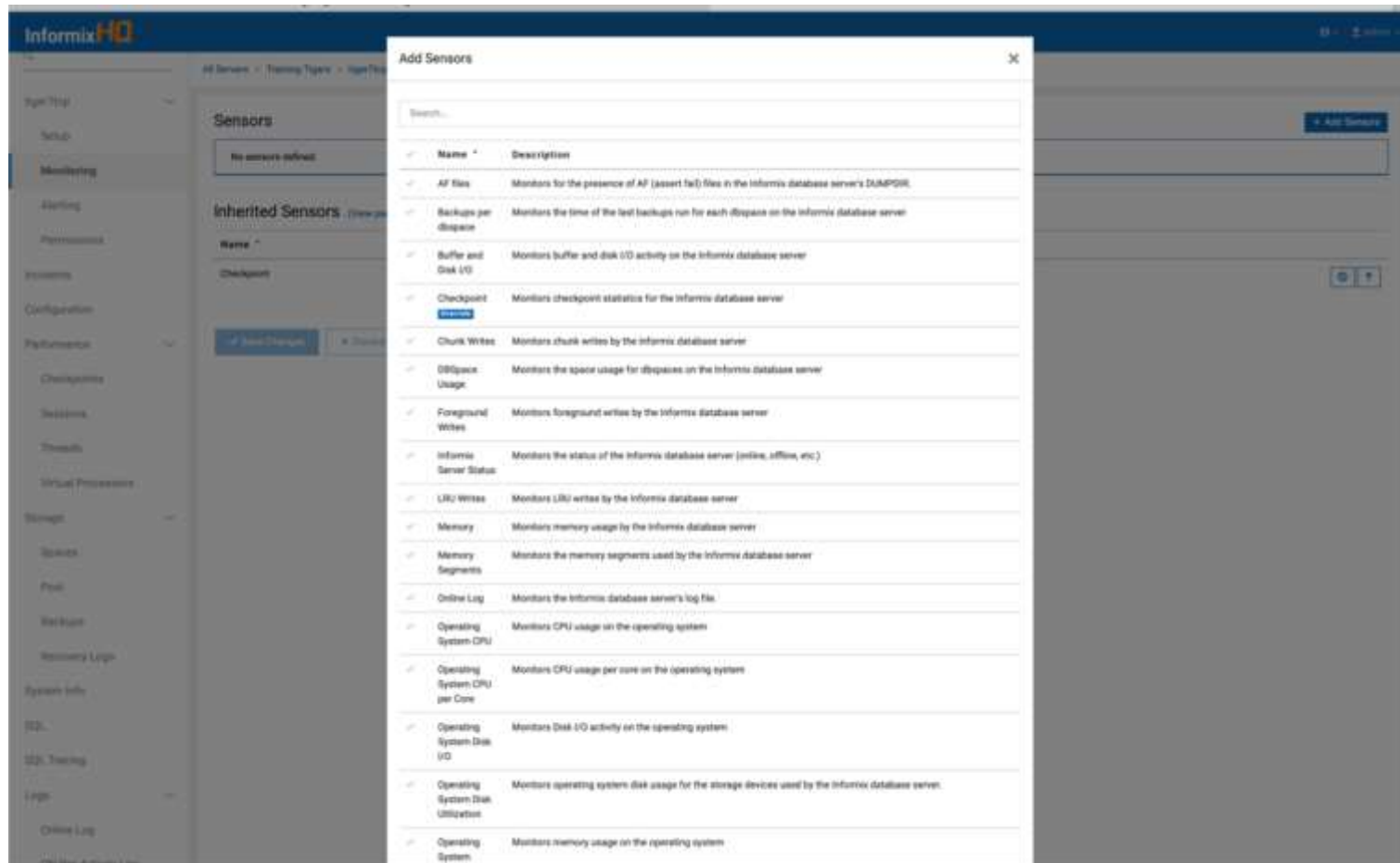
InformixHQ – Monitor oninits



InformixHQ – Monitor Logs



InformixHQ – Setup Alerts



InformixHQ – SQL Commands

The screenshot displays the InformixHQ web interface. On the left is a navigation menu with categories like 'Type/Top', 'Configuration', 'Performance', 'Storage', and 'System Info'. The 'SQL' option is selected. The main area is titled 'SQL Console' and shows the command 'openstat -p' executed. Below the command, a table of system statistics is displayed.

SQL Console

openstat -p

openstat

IBM Informix Dynamic Server Version 14.10.PF1 -- OS-Linux -- Up 00:04:34 -- 120489 Kbytes

Profile								
diskreads	pagesreads	bufreads	touches	diskwrite	pageswrite	bufwrite	touches	
7111	12239	307699	67.70	4873	7195	57200	91.48	
laststat	open	statk	read	write	overwrite	delete	commit	rollback
616396	51366	68336	100587	8199	6395	1061	7063	8
op_read	op_write	op_rwrite	op_del	op_alter	op_free	op_restore		
0	0	0	0	0	0	0		
ollock	crossthread	schuff	comprgn	expgrp	sumkbyte	flushes		
0	0	0	0.82	1.27	1	3		
infwrite	lobwrite	locklogs	dmailk	diprnts	chgwrite	comprsv	segsvens	
71	0	178712	0	0	0	1846	1143	
loda-da	loda-na	da-da	logres-da	Ab-pgsvend	lobwrite			
857	271	348	2	528	123			